Archives of Sexual Behavior, Vol. 28, No. 1, 1999

The Reported Sex and Surgery Satisfactions of 28 Postoperative Male-to-Female Transsexual Patients

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*From 1980 to July 1997 sixty-one male-to-female gender transformation surgeries were performed at our university center by one author (A.M.). Data were collected from patients who had surgery up to 1994 (*n = *47) to obtain a minimum follow-up of 3 years; 28 patients were contacted. A mail questionnaire was supplemented by personal interviews with 11 patients and telephone interviews with remaining patients to obtain and clarify additional information. Physical and functional results of surgery were judged to be good, with few patients requiring additional corrective surgery. General satisfaction was expressed over the quality of cosmetic (normal appearing genitalia) and functional (ability to perceive orgasm) results. Follow-up showed satisfied who believed they had normal appearing genitalia and the ability to experience orgasm. Most patients were able to return to their jobs and live a more satisfactory social and personal life. One significant outcome was the importance of proper preparation of patients for surgery and especially the need for additional postoperative psychotherapy. None of the patients regretted having had surgery. However, some were, to a degree, disappointed because of difficulties experienced postoperatively in adjusting satisfactorily as women both in their relationships with men and in living their lives generally as women. Findings of this study make a strong case for making a change in the Harry*

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0004-0002/99/0200-0071$ 16.00/0

Benjamin Standards of Care to include a period of postoperative psychotherapy.

KEY WORDS: transsexualism; gender dysphoria; sex change; gender dysphoria psychotherapy; sex reassignment surgery; psychosocial adjustment; sexual adjustment; long-term follow-up.

INTRODUCTION

Follow-up studies on transsexualism have mainly assessed the effectiveness of various treatments, using criteria such as the patients' integration in society (Abramowitz, 1986), the selection of patients as candidates for reassignment surgery (Lundstrom *et al*., 1984), patients' satisfaction with surgical results (Eldh, 1993), or specific issues like orgasm (Lief and Hubschman, 1993; Lindemalm *et al*., 1986; von Szalay, 1990) or intercourse frequency (Freundt *et al*., 1992; Godano *et al*., 1990). Due to the absence of a large body of published information that provides long-term results for surgically treated patients integrating the different components, the aim of this investigation was to accumulate information about (i) physiological and psychological functioning of operated transsexual patients, specifically in how it is perceived and what were their expectations; (ii) physiological aspects of the interrelationship between genital anatomy and sexual function; (iii) the relationship between sexual adjustment and surgical results; (iv) how these patients perceived sexual satisfaction, what constituted personal sexual satisfaction, and for giving pleasure to a partner.

MATERIALS AND METHODS

Study Population

From 1980 to July 1997, sixty-one male-to-female gender transformation surgeries were done at our university center by one of the authors (A.M.). Data were collected from patients who had surgery up to December 1994 (n = 47) with a follow-up to 3 years. Of 47 patients, 28 responded to a questionnaire. Other's did not respond (n = 16) or had died (n = 3). All of the patients had been cross-living as females at least 12 months or longer. All were at least 21 years of age at the time of surgery. Of the 28 patients that responded, 1 was married, 8 were divorced, and 1 became a widow. The remaining 18 patients were single. Prior to surgery, all had a thorough evaluation and had undergone 1 to 2 years or at least 15 sessions of preparation in psychotherapy with psychotherapists who specialized in

the field of Gender Dysphoria. Thus, all patients received some emotional and mental preparation to facilitate the postsurgical process of adjustment.

Data Collection

A questionnaire was developed by the authors for the purpose of collecting reliable postsurgery data from this sample, in order to investigate several issues: (i) the kind and degree of personal satisfaction obtained from surgery; (ii) the evaluation of emotional and psychological issues experienced by living in society as female; (iii) the evaluation of self-perception as female living among genetic females in society, and the development of interpersonal and sexual relationship with the opposite sex; (iv) how the outcome of surgery impacted on perceptions of the overall quality of life; (v) the level of adjustment required or experienced in places of employment; (vi) the degree of importance given to gynecological and physical examinations and medical follow-up procedures (see Questionnaire attached). In addition data were further supplemented by personal interviews with 11 of the 27 who responded to the questionnaire, to validate and to expand some of the details provided in their written replies (S.L.) on a one-to-one basis, as well as telephone interviews with remaining patients. To maximize accuracy in patients' responses, the personal follow-up interviews were conducted by a physician who was not involved in the original decision for surgery or with the surgery (S.L.).

Transsexual Surgery

The surgical procedure consists of removing the male sexual organs, creation of a functional vagina and sensate clitoris, which is supplemented at a later stage by labioplasty. All patients received estrogen and progesterone for 6 to 12 months for breast development and for atrophy of the testes and prostate. Estrogen therapy was discontinued 1 month prior to operation because of the thrombogenic promoting properties of estrogen and the need to minimize postoperative tissue swelling.

Vaginoplasty (Creation of New Vagina). The surgical procedure was performed under general anesthesia. The patient was placed in the exaggerated lithotomy position. The longitudinal incision was made in the perineum and the transverse perineal muscles were dissected to make a cavity for the vagina anterior to the rectum and posterior to the prostate and bladder. Two methods of vaginoplasty were employed. The first is the penile inversion technique (n = 25/28), in which only a penile skin tube

was used to form the lining of the vagina. The second was (n = 3/28) a combination of scrotal and penile skin, which were sutured together and inverted into the neovagina, so that the anterior vagina was formed by the penile skin and posteriorly by the scrotal flap. A vaginal dilator was placed in the neovagina and left for 7 days. Postoperatively, the patients were instructed to keep the neovagina patent by dilating it daily with a dilator. All patients were examined within 3 months after surgery to ascertain depth and girth of the new vagina.

Clitoroplasty (Creation of Sensate Clitoris). The clitoris was created from reduction of the glans penis. Vessels and nerves supplying the glans were carefully dissected to keep sensation. The neurovascular bundle is placed subcutaneously in a wide curve in order to avoid kinking; the glans is trimmed and brought through a slit in the skin, 1 cm anterior to the urethral meatus.

Labioplasty (Creation of Normal Appearing Labia Majora). Second stage (6 months later) labioplasty was performed to perfect the appearance of their external genitalia.

Surgical Revisions (Reoperation)

Vaginal Revision: Postoperative vaginal stenosis or shrinkage was seen in 3 of 28 patients which was corrected by augmenting the vagina by an isolated piece of 15 to 20 cm of sigmoid colon and brought down through a peritoneal fold into the vagina and sutured at the vaginal introitus. One patient (1/28) developed stricture, which needed revision of the scrotal vaginal flap.

Dyspareunia. The most common complication of male-to-female reassignment surgery was dyspareunia resulting from a combination of a small narrow male pelvis, a small vagina, and hypertrophied erectile tissue. This was observed in 7 of 28 patients. In the last 3 years we have used tissue expanders preoperatively to increase the penile skin preoperatively in patients with a small penis.

RESULTS

Of the 47 male-to-female transsexuals who had surgery between 1980 and 1994, data from 28 patients is presented. (Of the 47 operated patients, 3 had died: 1 in a car accident; 1 from AIDS; and 1 committed suicide in jail.) Seventeen of the questionnaires mailed were returned due to a change of address or untraceable. The data on these patients were available for

1.5–8 years and these non-responders were not systematically different from responders. As updated information was not available at the time of interview, they are excluded from the study. Twenty-eight subjects responded to the questionnaire developed by the authors. Personal interviews were conducted with 11 of these 28 subjects to obtain and to clarify personal information and by telephone interview with the remaining 17. These 11 patients were selected on the basis of time availability and geographic location which enabled them to meet with the interviewer. (See details in Tables I and II.)

Transsexual Surgery Outcome

All 28 patients expressed that they felt better than prior to surgery. In these cases, a satisfactory harmony was achieved between their feelings of psychosexual affinity and physical appearance. Twenty-five patients reported no medical problems following surgery. The most common complaint (7/28) was lack of vaginal depth. This happened when the patient failed to dilate the vagina with a vaginal dilator to an adequate depth to keep the vagina patent throughout its entire length. Three patients had vaginal stenosis and one had vaginal stricture which needed revision surgery. Although additional corrective surgical procedures had been necessary in 4 of 28 cases, the patients felt calmer, more stable, and more content after surgery. Ten subjects reported great satisfaction with the cosmetic results of the genital surgery; 9 reported these results as very good; 8 said "fair." Twenty-two patients believed that achieving good cosmetic result from acquiring attractive and appropriate female genitalia holds great importance for their personal feelings. The cosmetic results of the sex reassignment surgery are of considerable importance to the overall well-being of these patients. One said, "I am obsessed with my appearance; the authentic look of my new genitals makes me very proud." Twenty-one patients thought that the simultaneous creation of a clitoris during surgery is very important for the external appearance of the genitalia and for the ability to attain orgasm. The remaining six reported that the clitoris is not at all important. Emotional difficulties following surgery were reported by 3 patients; 1 specifically reported depression, which passed several months later. None of the patients regretted or had doubts about having undergone sex-reassignment surgery. All stated that they would do so again in a similar situation, including those who had to undergo corrective surgical procedures (surgical revision, $n = 4/28$).

Table I. Demographic Data

ID	Age	Marital status	First gender dysphoric thought (Age)	Cross dressing (Age at time of surgery)	Hormonal therapy (Years)	Previous cosmetic surgery	Orchi-ectomy prior to surgery	Education	Religion	Occupation
1	31	Divorced	8	29	2	No	No	High School	Catholic	Bank Clerk
2	59	Divorced	9	40	16	Yes	No	Dental doctor	Jewish	Dentist
3	42	Single	6	20	19	Yes	No	Elementary	Catholic	Unemployed
4	38	Single	8	31	7	Yes	Yes	Elementary	Catholic	Unemployed
5	32	Single	11	17	15	No	Yes	High School	Buddhist	Unemployed
6	32	Single	8	31	1	No	Yes	College	Jewish	Paralegal
7	32	Single	5	20	15	No	Yes	College	Baptist	Clerk
8	42	Divorced	6	40	2	No	No	College	Catholic	Nurse
9	30	Single	6	23	7	Yes	No	College	Anglo-Saxon Protestant	Computer programmer
10	49	Divorced	6	41	10	No	No	Elementary	Protestant	Superintendent
11	41	Divorced	6	35	7	No	No	College	Catholic	Chemist
12	33	Single	6	18	15	Yes	No	Elementary	Catholic	Hair Stylist
13	39	Single	14	29	10	No	No	Elementary	Protestant	Therapist aid
14	60	Divorced	5	57	3	Yes	No	High School	Buddhist	Financier
15	51	Widowed	8	44	7	Yes	No	PhD	Catholic	College mathematics professor

16	34	Single	5	30	3	Yes	No	College	Catholic	Clerk
17	33	Single	8	24	10	Yes	No	Elementary	Catholic	Unemployed
18	31	Married	10	19	11	No	No	College	Catholic	Clerk
19	38	Divorced	6	36	2	No	No	PhD	Anglo-Saxon Protestant	Biology researcher
20	24	Single	6	16	7	No	No	College	Catholic	Manager
21	41	Single	6	37	0	No	Yes	Elementary	Catholic	Bartender
22	33	Single	6	26	8	No	No	College	Jewish	Manager
23	37	Single	6	36	2	No	No	High School	Greek Orthodox	Sales woman
24	37	Divorced	9	33	2	Yes	No	High School	Protestant	Policewoman
25	47	Single	7	33	2	No	No	High School	Jewish	Nurse
26	35	Single	5	34	4	Yes	No	High School	Anglo-Saxon Protestant	Electronic technician
27	37	Single	6	36	2	Yes	No	College	Catholic	Teacher
28	27	Single	8	22	2	Yes	No	College	Catholic	Teacher

Table II. Surgical Outcome and Complications

No.	Importance of orgasm for sexual satisfaction	Potential for orgasm	Sexual partners	Intra-vaginal intercourse	Other sexual outlets	Intercourse frequency[a]	Clitoro-plasty	Surgical complications
1	Very important	Yes	Males only	Yes	Masturbation, vibrators	2/Week	No	None
2	Somewhat important	Yes, infrequently	Females	No	Masturbation, vibrators, oral	N/A	No	None
3	Very important	No	Males only	No		2/Week	No	None
4	Not important	Yes, infrequently	Males only	Yes		1-2/Week	No	None
5	Very important	Yes	Males only	Yes		2/Week	No	None
6	Very important	No	Males only	Yes		N/A	No	Revision of scrotal vaginal flap
7	Somewhat important	Yes	Males only	No		N/A	No	None
8	Very important	Yes	Males only	Yes		N/A	No	None
9	Somewhat important	Yes, infrequently	Males only	No	Masturbation, vibrators	N/A	No	Colon Neovagi-noplasty
10	Not important	Yes	Females	No	Oral, vibrators	N/A	No	None
11	Very important	Yes	Males only	Yes		2/Week	No	None
12	Very important	Yes	Bisexual	Yes		1/Week	No	None
13	Somewhat important	Yes	Males only	Yes		1/Two weeks	No	None
14	Not important	No	Males only	No	No	N/A	No	None
15	Very important	No	Males only	No		N/A	Yes	None
16	Somewhat important	Yes, infrequently	Males only	Yes		1/Week	No	None

17	Somewhat important	Yes	Males only	Yes		3/Week	No	None
18	Very important	Yes	Males only	Yes		1/Week	No	None
19	Somewhat important	No	Males only	No	No	N/A	No	None
20	Not important	Yes	Males only	Yes		2/Week	No	None
21	Somewhat important	Yes, infrequently	Females	No	Masturbation, vibrators, oral	1/Week	No	Sigmoid Neovaginoplasty
22	Very important	Yes, infrequently	Males only	No	Masturbation, vibrators	N/A	No	Sigmoid Neovaginoplasty
23	Very important	Yes	Males only	Yes		1/Week	Yes	None
24	Somewhat important	Yes, infrequently	Bisexual	Yes		N/A	Yes	None
25	Very important	No	Males only	No		N/A	Yes	None
26	Somewhat important	Yes	Bisexual	No	Oral, vibrators	N/A	Yes	None
27	Very important	Yes	Bisexual	Yes	Masturbation, vibrators	1/Week	Yes	None
28	Very important	Yes	Males only	Yes		2/Week	Yes	None

[a]N/A not answered.

Sexual Adjustment Outcome

Fifteen patients engaged postoperatively in coitus. All of them, as well as those who did not engage in vaginal intercourse or used vibrators, reported a degree of pain during sexual activity, and all required use of some kind of lubricant. Many patients were able to have orgasm; some even claimed multiple orgasms, whereas others report little, if any, sexual arousal, but stated that the ability to "contain" a man's penis was sufficient gratification in itself. Some patients who experienced orgasm claimed that the feeling they experienced postsurgically was different from their orgasmic feelings as men (Lief and Hubschman, 1993). The latter was felt as an intense propulsive sensation situated at the tip of the penis, whereas the former was a more generalized "warm" feeling, a total body sensation building up gradually to a climax that resolves more slowly. Some patients also reported ejaculating a small amount of fluid during coitus. All reported that it took them somewhat longer to reach orgasm than prior to surgery, although they all perceived this result as positive. Twenty-seven patients reported that changing their gender role through surgery affected the overall quality of their life in a very satisfactory manner. "I feel more complete now." "I feel good about myself. For once in my life, I feel I have a future." In response to the question: "If you become emotionally involved with a partner, do you intend to tell that person about your transsexual past?," 26 of the 28 subjects replied "yes," while only one replied "no." Fifteen subjects reported being sexually active and engaging in vaginal intercourse; 7 engaged in masturbation, use of vibrators, or oral sex only. The 7 subjects who reported not engaging in intravaginal intercourse complained of suffering from too narrow a vagina, or lack of depth and/or from pain on penetration. Twenty-one subjects reported a preference only for male sexual partners. Three reported a preference for female sexual partners. Of these three, one subject explained that her reason was a fear of AIDS and a fear of penetration pain. Four subjects did not find suitable partners. Three reported being bisexual. Fourteen reported satisfaction in sexual activities and experienced orgasm most of the time. However, they noted that although the quality and intensity of orgasms were better than before, it took longer to achieve them. Seven reached orgasm infrequently; six did not reach orgasm at all. Of these six, two complained of a loss of desire with time. All subjects reported engaging in sexual activity 3 to 6 months after surgery. Three reported having intravaginal intercourse 3 weeks following surgery, in addition to dilation procedures.

Psychosocial Outcome

Twenty-seven of the 28 patients reported high satisfaction in their perceptions of the quality of their lives. Seventeen reported satisfaction in their employment after surgery. Their satisfying jobs gave them a sense of stability and the opportunity to be self-supporting. Since six of the subjects had lost previous jobs, which they had liked, they reported being only somewhat satisfied with their new jobs after surgery. Four subjects remained unemployed. Two reported suicidal feelings shortly after surgery. The others, including those who experienced suicidal ideation prior to surgery, reported that sex reassignment surgery caused them to feel more psychologically stable and to experience their lives as more substantial and satisfying. In response to the question: "Is life becoming easier and more comfortable for you after surgery?", all replied positively and embellished their responses in personal interviews by adding: "I am more confident and feel better about myself. I am happier." "I now feel like a total woman." Twenty-one reported that sex reassignment surgery solved most of their emotional problems: "I am now a complete person in every way." "I feel more self-confident and more socially adapted." Four subjects reported that the surgery solved only a small portion of their problem. Two reported that surgery "can never solve all of one's emotional problems": All reported satisfaction in having had the surgery and none expressed regrets over this decision. Twenty-three perceived that a woman's role in the world should be that of an equal partner and not a passive role or one that expects to be "taken care of." Many patients expressed the desire to live fully in the world as women and to have men take care of them "for a change."

DISCUSSION

In 1959, Dr. Harry Benjamin (Schaefer and Wheeler, 1995) defined for the first time the diagnostic parameters of the transsexual phenomenon and distinguished them from other secondary disorders, such as chromosomal or hormonal disturbances related to gender identity issues. There were two critical points in time for determining the success of treatment without ignoring other factors that may have an effect on outcome. The preoperative testing period was the most important. During this period, the person lived, dressed, and functioned in the opposite gender role. They received hormonal treatment and engaged in ongoing psychotherapy. During these treatments, it was possible to evaluate their psychosociosexual adjustment. The diagnostic phase serves to differentiate the transsexual syndrome from other conditions with similar manifestations. Moreover, in this

phase the patient was made aware of the consequences of sex reassignment surgery. The therapeutic tasks during the real-life test period involved, for instance, learning adequate behavior patterns in the desired gender role. It was also important to emphasize problems associated with the social environment, which arise as a result of the change of sex: legal changes, relationship changes, etc. (Hastings and Markland, 1978; Herms, 1989; Mate-Kole *et al.*, 1990).

Throughout the mid-1970s, treatment for intense Gender Dysphoria and Transsexualism consisted of hormone treatments and sex reassignment surgery, with no requirements for psychotherapy or adequate diagnostic evaluation and with little preparation of patients for the absence of expected benefits, for risks, side effects, and limitations (Money, 1974; Pauly, 1968). A review of postoperative cases concluded that transsexuals who underwent such surgery were many times more likely to have a satisfactory outcome than transsexuals who were denied this surgery (Gordon, 1991; Jartar *et al.*, 1996; Rakic *et al.*, 1996; Rubin, 1993; Snaith, 1993; Stein *et al.*, 1990; Tsoi, 1993). The availability of surgery before rational criteria were developed for the comprehensive care of patients motivated members of the Harry Benjamin International Gender Dysphoria Association to pioneer the Standards of Care, a document outlining minimum standards for evaluation and treatment of gender dysphoric patients (Berger *et al.*, 1977; Cole *et al.*, 1994; Eicher, 1995). Although selection of candidates for sex reassignment surgery continues to be debated and empirical criteria over the past two decades have been based on individual evaluations and judgments, a summary of more useful criteria serves as an initial guide in helping psychotherapists evaluate potential candidates. These specific criteria have less to do with a singular selection of individual characteristics (such as passable looks, sufficient financing, some college education, demonstration of stability in employment and in interpersonal relationships, completion of a gender identity clinic program, and nonfetishistic cross-dressing) (Bodlund and Kullgren, 1996; Bradley *et al.*, 1991; Hage, 1995), but have more to do with the process of patients learning about their condition and preparing and developing a positive attitude toward life and its possibilities.

As might be expected, our patients with the best surgical results expressed the greatest satisfaction and adapted most readily to their environments. In biological males a poor operation results in inadequate sexual adjustment. We found overall sexual adjustment closely tracks outcome of genital surgery.

The early and persistent desire to live fully in the role of the opposite sex allowed transsexual patients relatively more ease in acquiring the new gender role and identity after sex reassignment surgery. As females, they felt that this experience was so different, that it made them very happy to

achieve orgasm in any fashion whatsoever. Some patients continue, to experience more and unexpected difficulties in assuming and functioning in their new social gender role. For instance, in their new gender identity as females, generally, the patients' ability to form interpersonal and intimate sexual relationships with a male is difficult. Their lack of experience in living as females in a stereotypical sexual role with behavior, such as passive sexuality during courtship and the simultaneous desire to be attractive and desirable to another, complicates the picture. Several patients explain this as "not yet being able to or not yet finding a suitable male partner." They feel shame, embarrassment, and frustration, which sometimes causes them to avoid intimate relationships with a male. Also, there is a fear that the new vaginal entrance wished for so long will break or be damaged during intercourse. Male-to-female persons frequently tend to show their new genitalia to others in order to reinforce their own belief and confidence in their female role. In living with these anxieties about having relations with a male, these patients sometimes choose a female as a sexual partner, while simultaneously feeling that to build equal and appropriate interpersonal relationships between two females is extremely difficult. Living in a society that prepares males and females for very distinct and specific sex-role behaviors, the anatomical female is socialized from birth to function as a female in our society, while the male-to-female person has to acquire new sex-role behavior patterns later in life.

As noted previously, there was not one patient who felt regret at surgery (Stein *et al.* 1990). In spite of no regrets, 7 of 28 patients expressed some disappointment in how their lives were going. They realized that the surgery did not solve all their problems and had not shown them automatically how to live their lives as females, having had no preparation for or practice in doing so many things in the female role. Some of these were as commonplace as making friends or shopping for clothes; others were much more emotional and even exotic, such as how to behave and how to respond sexually as a woman, how to court or be courted. Nonetheless, it is the authors' opinion that sex reassignment surgery contributes significantly to psychosocial stability, especially if there has been a thorough, accurate diagnosis and a proper consultation over an adequate period during preparation for surgery (Berger *et al.*, 1977; Bodlund and Kullgren, 1996; Cohen-Kettenis and van Goozen, 1997; Eldh *et al.*, 1997; Jarrar *et al.*, 1996; Rakic *et al.*, 1996; Snaith, 1993).

We noted a marked decrease of suicide attempts, criminal activity, and drug use in our postoperative population. This might indicate that there is a marked improvement in antisocial and self-destructive behavior, that was evident prior to sex reassignment surgery. Most patients were able to maintain their standard of living and to continue working, usually at the same

jobs. Very little difficulty in maintaining close friendships was reported, and most patients experienced strong support from family and/or friends. A tendency toward longer and more stable relationships with lovers was evident (Stein *et al*., 1990). These wishes to become the other gender or to appear as the other gender seemed to last a lifetime. They were clearly present from early childhood to adulthood in all patients and were not related to any particular life stresses. It appeared that the most appropriate age for sex reassignment surgery was the early 30s. This age enabled patients to live successfully and to adjust socially and sexually. Moreover, it increased the possibility for developing their attractiveness and for allowing them to mature in dealing with new life stressors.

One significant outcome was the importance of proper and sufficient preparation of patients for surgery and, most especially, the need for additional postoperative psychotherapy. This was particularly evident in the fact that although none of the patients had any doubts about or regretted having surgery, some were, to a degree, disappointed because of the difficulties they continued to experience postoperatively in adjusting satisfactorily as women. This was both in their relationships with men in general and in living their lives as women. It is the responsibility of psychotherapists who work with this condition to prepare each patient more fully for the exigencies and vicissitudes, as well as for the joys and pleasures of living in the opposite gender. Therapists and patients must understand that although the patients may have hated being known as males and may even have hated their male bodies and genitals, their lives and socialization for many years as males had not prepared them for anything else, perhaps especially for living full-time in their true-life gender role. The findings of this study make a strong case for making a change in the Harry Benjamin Standards of Care to include a period of postoperative psychotherapy that would assist patients in living their lives more realistically and more fully as females. Postoperative psychotherapy can be very beneficial to patients regarding issues that are unique to the postoperative experience in areas of the most subtle and mundane concerns of daily life, as well as in interpersonal relationships and with intimacy, anxiety, and expression. Although preoperative therapy, in this regard, is aimed at helping patients to learn to live in the role of their inner gender, there are some issues that cannot be addressed in the preoperative period because the actual experience of living in the opposite-gender role, with an authentic-looking phenotype, has still not been fully experienced (Herms, 1989; Lindemalm *et al*., 1987; Meyer and Reter, 1979; Ross and Need, 1989). They may afterwards experience more and unexpected difficulties in assuming and functioning in their new social gender role.

Therapeutic measures begun during the real-life test should be continued after surgery. Issues of partnerships and sexuality appear to be especially important. Most patients need a great deal of help and psychological guidance in this postoperative period. This time is necessary to help them recognize and adjust to a hostile societal attitude, not that they are not well aware of this; but some believe that having the surgery will wipe away the hostile anxiety that society exhibits toward them. The important aspect of this period is to continue to reinforce the social and psychological readjustment of each individual in order to fulfill his or her initial and basic desire to become their own true person.

Despite a significant increase in the numbers of treated patients and a significant improvement in both knowledge and surgical techniques for creating both a functioning vagina and organs that resemble external female genitalia, patients must understand that they still have to cope with economic and emotional issues during treatment and, especially, after sex-reassignment surgery (Calanca, 1991; Herms, 1989; Pfafflin and Junge, 1992).

APPENDIX

Questionnaire

1) When did you have genital surgery? _____
2) What physical problems have you had as a result of the surgery? _____
3) Why did you decided to have sex change, and what was your age at first gender dysphoric thought? _____
4) Have you been able to follow your surgeon's instructions regarding dilation? _____
5) Frequency of dilator use (daily frequency/hours) _____
   First four months after surgery: _____
   Four months later: _____
   The last four months of the first year _____
6) Have you had a genital examination after your genital surgery? _____
7) Have you been given open-ended prescriptions for hormonal therapy? _____
8) Job history after surgery (please circle one of the following)
   a) Stable, completely self supporting _____
   b) Mostly self supporting _____
   c) Mostly unemployed _____
   d) Always unemployed _____

9) Does your present job satisfy you? _____

10) Did you have any suicidal thoughts or gestures before or after the surgery? _____

11) Drugs or criminal activities after the surgery (please circle one or more of the following): _____

a) No use of drugs _____

b) Occasional use (marijuana, alcohol, tranquilizers) _____

c) Occasional use of (sleeping pills, amphetamines, cocaine, LSD, crack) _____

d) Regular drug use _____

12) Do you feel that life is easier and more comfortable for you after the surgery? _____

13) Do you think that the surgery solved your emotional problems? _____

_____

14) Have you noticed any physical or emotional change in your behavior or attitude to others after the surgery? _____

15) Are you currently living with: _____

a) Spouse e) No partners

b) Male lover f) Parents

c) Female lover g) Your children

d) Roommate h) other

16) If you become emotionally involved with a partner do you tell that person about your transsexual past? _____

17) Sexual partner preference:

a) Only males b) Bisexual, mostly males

c) Bisexual, mainly females d) Only females

e) No sexual partner

18) Describe your love relationship after the surgery: (select one)

a) Long and stable c) Usually short lasting relationship

b) Recent stable relationship d) Short lasting relationship with multiple partners

19) Have friends or family members been:

a) Very supportive b) Moderately supportive c) Not supporitve

d) How has this affected you? _____

20) Have you been sexully active since the surgery? _____

21) Is sexual intercourse satisfactory and pleasurable? _____

Type of intercourse a) Vaginal b) Anal c) Oral d) Other _____

22) Sexual satisfaction (Organsm):

a) Consistently orgasmic b) Usually orgasmic

c) Infrequently orgasmic d) Never orgasmic

23) Do you find any change in your ability to have orgasm after the surgery? _____

24) How important is it to have orgasm?
a) Very important b) Somewhat important c) Not important
25) Do you experience pain during sexual intercourse?
a) Always b) Often c) Infrequently d) Never
26) Do you need to use lubricants (KY Jelly) for intercourse?
a) Always b) Often c) Infrequently d) Never
27) If after the surgery you don't have sexual intercourse what are the reasons? (Please circle one or more of the following):
a) No suitable partner found
b) Too painful
c) Fear to damage the surgical results
d) No desire
e) Vaginal stenosis
f) Not adequate cosmetic result
g) Other _____
29) Surgical decision: (please circle one)
a) No doubts about the surgery
b) Occasional doubts about surgery, but no doubts about being a woman
c) Occasional doubts about surgery, and about being a woman
d) Frequent doubts
30) What do you think about the cosmetic result of the surgery?
a) Excellent b) Very good c) Fair d) Poor
31) How important is the cosmetic result?
a) Extremely important b) Very important
c) Somewhat important d) Not important
32) Do you regret that you had the surgery? _____
33) Can you describe how changing your gender through surgery affected the overall quality of your life? _____
34) How do you perceive the woman's role in the world?
a) Passive b) Victim c) To be taken care of d) Equal partnership

ACKNOWLEDGMENT

This article was presented at the American Urological Association annual meeting.

REFERENCES

Abraham, F. (1931). Genitalumwandlung an zwei maenlichen transvestiten. *Z. Sexualwissens.* 18: 223-226.

Abramowitz, S. (1986). Psychosocial outcomes of sex reassignment surgery. *J. Consult. Clin. Psychol.* 4: 183-189.

Berger, J., Green, R., and Laub, D. (1977). Standards of Care: The Hormonal and Surgical Sex Reassignment of Gender Dysphoric Persons, University of Texas Medical Branch, Janus Information Center, Galveston, TX.

Bodlund, O., and Kullgren, G. (1996). Transsexualism—general outcome and prognostic factors: A five-year follow-up study of nineteen transsexuals in the process of changing sex. *Arch Sex. Behav.* 25: 303-316.

Bradley, S., Blanchard, R., and Coates, S. (1991). "Interim report of the DSM-IV Subcommittee on Gender Identify Disorders." *Arch. Sex. Behav.* 20: 333-334.

Calanca, A. (1991). [The transsexual after sex change. Evolution and prognosis] [French]. *Helv. Chir. Acta* 58: 257-260.

Cohen-Kettenis, P. T., and van Goozen, S. H. (1997). Sex reassignment of adolescent transsexuals: a follow-up study. *J. Am. Acad. Child Adolescent Psychiat.* 36: 263-271.

Cole, C. M., Emory, L. E., Huang, T., and Meyer, W. J., 3rd. (1994). Treatment of gender dysphoria (transsexualism). *Texas Med.* 90: 68-72.

Eicher, W. (1995). [Transsexuality—standards of care]. *Z. Gynakol.* 117: 61-66.

Eldh, J. (1993). Construction of a neovagina with preservation of the glans penis as a clitoris in male transsexuals [see comments]. *Plast. Reconstr. Surg.* 91: 895-900.

Eldh, J., Berg, A., and Gustafsson, M. (1997). Long-term follow up after sex reassignment surgery. *Scand. J. Plast. Reconstr. Surg. Hand Surg.* 31: 39-45.

Freundt, I., Toolenaar, T., Huikeshoven, F., Drogendijk, A., and Jeekel, H. (1992). A modified technique to create a neovagina with an isolated segment of sigmoid colon. *Surg. Gynecol. Obstet.* 174: 11-16.

Godano, A., Massara, D., Crovella, U., Brigatti, L., Cocimano, V., and Marten Perolino, R. (1990). [Follow-up of surgically treated transsexuals: what has changed?]. [Italian]. *Arch. Ital. Urol. Nefrol. Androl.* 62: 113-116.

Gordon, E. B. (1991). "Transsexual healing: medicaid funding of sex reassignment surgery. [Review]." *Arch. Sex. Behav.* 20: 61-74.

Hage, J. J. (1995). Medical requirements and consequences of sex reassignment surgery. *Med. Sci. Law* 35: 17-24.

Hastings, D., and Markland, C. (1978). Post-surgical adjustment of twenty-five transsexuals (male-to-female) in the University of Minnesota study. *Arch. Sex. Behav.* 7: 327-336.

Herms, V. (1989). Results and follow-up of surgically transformed transsexuals. In Eicher, W. (ed.), *Plastic Surgery in the Sexually Handicapped*, Springer-Verlag, Berlin, pp. 129-133.

Jarrat, K., Wolff, E., and Weidner, W. (1996). [Long-term outcome of sex reassignment of male transsexual patients]. *Urol. Ausgabe A* 35: 331-337.

Kuiper, B., and Cohen-Kettenis, P. (1988). Sex reassignment surgery: A study of 141 Dutch transsexuals. *Arch. Sex. Behav.* 17: 439-457.

Lief, H. I., and Hubschman, L. (1993). Orgasm in the postoperative transsexual. *Arch. Sex. Behav.* 22: 145-155.

Lindemalm, G., Korlin, D., and Uddenberg, N. (1986). Long term followup of 'sex change' in 13 male to female transsexuals. *Arch. Sex. Behav.* 15: 187-210.

Lindemalm, G., Korlin, D., and Uddenberg, N. (1987). Prognostic factors vs. outcome in male-to-female transsexualism. A follow-up study of 13 cases. *Acta. Psychiat. Scand.* 75: 268-274.

Lundstrom, B., Pauly, I., and Walinder, J. (1984). Outcome of sex reassignment surgery. [Review]. *Acta. Psychiat. Scand.* 70: 289-294.

Mate-Kole, C., Freschi, M., and Robin, A. (1990). A controlled study of psychological and social change after surgical gender reassignment in selected male transsexuals. [see comments]. *Br. J. Psychiat.* 157: 261-264.

Meyer, J., and Reter, D. (1979). Sex reassignment. Follow-up. *Arch. Gen. Psychiat.* 36: 1010-1015.

Money, J. (1974). Long term psychologic follow-up of inter sexed patients. *Clin. Plast. Surg.* 1: 241-244.

Pauly, I. B. (1968). The current status of the change of sex operation. *J. Nerv. Ment. Dis.* 147: 460-471.

Pfafflin, F., and Junge, A. (1992). Nachuntersuchungen nach Geschlechusumwandlung: Eine kemmentierte Literatureubersicht 1961-1991 [Follow-up studies after sex-reassignment surgery: a review 1961-1991]. In Pfaffiin, F., and Junge, A. (eds.), Geschlechusumwandlung: Abhanddlungen zur Transsexualitat [Sex Change Studies on Transsexualism], Schattauer, Stuttgart, 149-459.

Rakic, Z., Starcevic, V., Maric, J., and Kelin, K. (1996). "The outcome of sex reassignment surgery in Belgrade: 32 patients of both sexes." *Arch. Sex. Behav.* 25: 515-525.

Ross, M., and Need, J. (1989). "Effects of adequacy of gender reassignment surgery on psychological adjustment: A follow-up of fourteen male-to-female patients." *Arch. Sex. Behav.* 18: 145-153.

Rubin, S. O. (1993). "Sex-reassignment surgery male-to-female. Review, own results and report of a new technique using the glans penis as a pseudoclitoris." *Scand J. Urol. Nephrol. Suppl.* 154: 1-28.

Schaefer, L., and Wheeler, C. (1995). Harry Benjamin's first ten cases (1938-1953): A clinical historical note. *Arch. Sex. Behav.* 24: 73-93.

Snaith, P., Tarsh, M. J., Reid, R. (1993). Sex reassignment surgery. A study of 141 Dutch transsexuals. *Br. J. Psychiat.* 162: 681-685.

Sorensen, T. (1981). "A follow-up study of operated transsexual females." *Acta Psychiat. Scand.* 64: 50-64.

Stein, M., Tiefer, L., and Melman, A. (1990). Followup observations of operated male-to-female transsexuals. *J. Urol.* 143: 1188-1192.

Tsoi, W. F. (1993). Follow-up study of transsexuals after sex-reassignment surgery. *Singapore Med. J.* 34: 515-517.

von Szalay, L. (1990). [Construction of a neo-clitoris in male-to-female transsexuals]. [German]. *Handchirurg. Mikrochirurg. Plast. Chirurg.* 22: 277-278.